



Quarterly Update from  
the Gerry E. Studds Stellwagen  
Bank National Marine Sanctuary



Fall  
2002

# TELLWAGEN BANKNOTES

## The Sanctuary Celebrates 10th Anniversary

Ten years ago, Congress reauthorized the National Marine Sanctuaries Act. Incorporated within that legislation was the designation of a new sanctuary off the Massachusetts coast — the Stellwagen Bank National Marine Sanctuary. Since that time the Sanctuary has grown — in the number of its staff, the amount of its budget, the size of its facilities, and the range of its programs. Its name has even grown. In 1996, upon the retirement of Congressman Gerry E. Studds, a leader in the House in the areas of marine and environmental legislation, Congress renamed the Sanctuary in his honor.

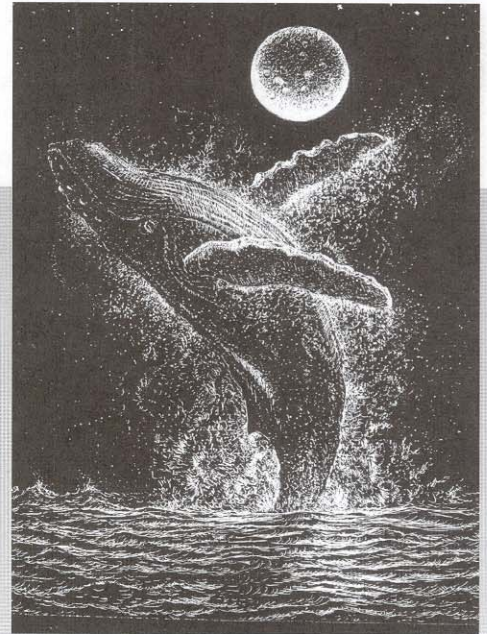
In recognition of the 10th anniversary (officially November 4th), the Sanctuary is hosting a series of events and developing several new products during the latter half of 2002. Many of these projects are cooperative efforts with other organizations. Join us in celebrating 10 years, and in developing our vision for the next decade.

### 10th Birthday Party for Sanctuary on November 2

Come join us for a celebration of the tenth anniversary of the Stellwagen Bank National Marine Sanctuary at the New England Aquarium on Saturday, Nov. 2, from 10am-4pm. The day's calendar of events includes a cake-cutting at 1pm, free showings of "Storm Over Stellwagen" throughout the day at the Aquarium's Immersion Theater, scavenger hunts for Stellwagen species in the exhibit halls, face painting, a giant birthday card mural, and educational activities. Radio Disney will broadcast live from the Aquarium plaza from 12 noon to 2 pm in support of the anniversary celebration.

### 10th Anniversary Poster

A full color poster of famed marine photographer Flip Nicklin's image of a feeding



*Robert Lyn Nelson, famed marine artist and creator of "Moonlit Wonder" (pictured above) will serve as a guest judge for the annual MME Art/Poster Contest. The Sanctuary is the theme of this year's contest. See Page 7 for details.*

humpback whale and herring gulls will be available for release this November. The photograph first appeared in National Geographic's March 1998 issue, as one of the opening images in a feature on the National Marine Sanctuaries. The poster will be distributed at various 10th anniversary events throughout the fall, winter, and spring. The poster is being produced in conjunction with the National Marine Sanctuary Foundation.

### Talks, Forum Planned

Learn about Sanctuary research and activities at one of a series of talks being given this fall, or participate in a forum that will attempt to "define" Stellwagen. The Lowell Lecture series runs Wednesday nights from Oct. 23 through Nov. 20; the series is co-sponsored by the New England Aquarium and the Sanctuary. The "Defining Stellwagen" forum is offered by the Center for Coastal Studies. See inside for more information on both of these programs.

## Welcome

Welcome to the inaugural issue of Stellwagen Banknotes, a quarterly update from the Stellwagen Bank National Marine Sanctuary to inform the public about upcoming events, research progress, and program highlights. We hope you find this publication valuable and timely. If you would like additional copies of the update or our annual newspaper (Stellwagen Soundings), or know of any individuals who would like to be placed on our mailing list, please let us know by contacting us via: phone: 781-545-8026; fax: 781-545-8036; or e-mail: stellwagen@noaa.gov or anne.smrcina@noaa.gov. Your comments or suggestions regarding the contents of this publication are also of interest to us.

## WHAT'S INSIDE:

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## Note from the Sanctuary Superintendent, Dr. Craig MacDonald

The weather is turning brisk, the leaves coloring and the days shortening. Change is in the air and the holiday season will soon be upon us. While wishing all of you the season's cheer, I hope you will find time amidst the hustle and bustle of your varied schedules to participate in some of the Sanctuary-related events described in this inaugural issue of Banknotes.

Whatever your interest in the Sanctuary or your age, you or the youngsters you know will find something in this quarter's update to tweak a curiosity or satisfy a need to know about the Sanctuary's doings. The Sanctuary is striving to communicate more frequently and broadly with our public and offering a variety of ways to get involved is one of the means.

In particular, we want to build upon the outreach occasioned by our recent Management Plan Review. As this update explains, public participation and the associated media coverage were huge. To all those who joined the effort, we offer our thanks; for those who were unable, we look forward to making your acquaintance. Join us as we celebrate our first ten years and help us navigate the Sanctuary's future heading.

Craig MacDonald

*Craig D. MacDonald*



## For More Information

Address:

**Gerry E. Studds**

**Stellwagen Bank National**

**Marine Sanctuary,**

**175 Edward Foster Rd.,**

**Scituate, MA 02066**

Telephone:

**781-545-8026**

Fax:

**781-545-8036**

General e-mail:

**stellwagen@noaa.gov**

Web Site:

**<http://stellwagen.nos.noaa.gov>**

Stellwagen Banknotes Editor

**Anne Smrcina**

## Sanctuary Staff

Craig MacDonald, Ph.D.

Sandi Dentino

Anne Smrcina

James Lindholm, Ph.D.

Benjamin Cowie-Haskell

Katrina Van Dine, Esq.

David Wiley, Ph.D.

Nathalie Ward, Ph.D.

Steve Kibner

Ruthetta Halbower

Joseph Green

Sanctuary Superintendent

Administrative Specialist

Education Coordinator

Science Coordinator

Operations and Program Coordinator

Management Plan Review Project Manager

Switzer Fellow / Marine Mammal Specialist

Advisory Council Coordinator

Research Vessel Captain

Office Assistant

NMFS/OLE Enforcement Coordinator

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- ☐ Stellwagen Banknotes
- ☐ E-mail Version of Banknotes
- ☐ Stellwagen Soundings Newsletter
- ☐ E-mail Notices
- ☐ State of the Sanctuary Report

If you are interested in a FREE Stellwagen Banknotes or Sanctuary Soundings newsletter subscription or other Sanctuary publications, please provide the following information and send to: **SBNMS, 175 Edward Foster Road, Scituate, MA 02066 or fax to: 1-781-545-8036**

Name

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e-mail address

(for future electronic Banknotes & notices)

Phone

## Getting Involved Volunteers

The Gerry E. Studds Stellwagen Bank National Marine Sanctuary welcomes your interest in our programs. At this time, we're initiating plans to start up a volunteer project that would provide assistance to our education, research and administrative programs. If you are interested in helping us organize this effort, please let us know by contacting our Education Coordinator, Anne Smrcina ([anne.smrcina@noaa.gov](mailto:anne.smrcina@noaa.gov)), or by calling the Sanctuary office at 1-781-545-8026.

## Donations

Tax deductible monetary donations can be made to the Stellwagen Bank National Marine Sanctuary's education fund at the National Marine Sanctuary Foundation, a non-profit organization dedicated to supporting the efforts of the 13 Sanctuaries around the nation. Donations made out to the Foundation (SBNMS Fund) can be sent to the Sanctuary office in Scituate.



### Over 18,000 MPR

#### Scoping Comments Received

The first stage of the Sanctuary's Management Plan Review (MPR) process is now complete, with the conclusion of a 3-1/2 month public comment period along with a set of nine public scoping meetings that were held in communities from Mystic, CT through Portland, ME. During that time, the Sanctuary heard from over 18,000 people via mail, e-mail, web comment form, and spoken remarks at the meetings. Press coverage was so comprehensive that it generated nearly a million news impressions. The next stage of the MPR process is to review all the material, categorize the comments, and work with the Sanctuary Advisory Council to prioritize the issues. Working groups will be established to develop action plans for the issues of highest concern.



Breaching Humpback Whale  
Photo by Regina Asmutis-Silvia

### Unusual Sightings

#### This Past Summer

It's been a colorful summer of sightings this year. Although the number of humpback whales was lower than in past years, the number of unusual sightings was up, according to naturalists on the whale watch vessels. A beluga whale popped up a few times early in the summer, while later in the season blue whales appeared, apparently feeding on uncommon concentrations of euphausiids (krill). Along with white-sided dolphins, several other toothed whales made appearances including the white-beaked dolphin and the grampus dolphin. Among the regularly sighted species were: humpbacks, right whales, finbacks, minke, and harbor porpoises. Naturalists also reported seeing an unusually large number of basking sharks this year.



Beluga Whale  
Photo by NE Aquarium

### Sanctuary to Co-Sponsor Christmas Bird Count with

#### Mass. Audubon on December 14

The annual Christmas Bird Count for Stellwagen Bank will once again be co-sponsored by the Massachusetts Audubon Society and Sanctuary on Saturday, Dec. 14 (weather permitting). The count has been supported by the Sanctuary over the past five years (although bad conditions over the past two years have prevented at-sea surveys). For more information about the program, contact Mass. Audubon's Simon Perkins at 781-259-9506 x2148 or the Sanctuary's Anne Smrcina at 781-545-8026 x204.

### "Defining Stellwagen"

#### Forum Announced

The Center for Coastal Studies recently announced plans to hold a forum about the Sanctuary on Wednesday, Nov. 13, at the Massachusetts Maritime Academy in Buzzards Bay, MA. The forum entitled "Defining Stellwagen," the first in the 2002-2003 Coastal Solutions Forum Series from CCS, is free and open to the public. The event begins at 5pm with a reception, followed by the forum at 7pm. For more information or to register, contact the Center for Coastal Studies by phone at 508-487-3622 x101 or e-mail ([ccs@coastalstudies.org](mailto:ccs@coastalstudies.org)).

### Fall Lowell Lecture

#### Series Celebrates

#### Sanctuary's 10 Years

In recognition of the Sanctuary's 10th anniversary, the Fall Lowell Lecture Series at the New England Aquarium is dedicated to research and management issues that affect the Stellwagen Bank National Marine Sanctuary. Lectures are held on Wednesdays and begin at 6 p.m. in the New England Aquarium's Immersion Theatre, part of the Exploration Center on the ground floor of the Boston Harbor Garage. Presentations will be followed by a coffee and dessert reception. Talks are approximately 45 minutes after which there is time for questions from the audience.

The Lowell Lecture Series is free and open to the public. For more information, contact Ken Mallory at 617-973-5295 ([kmallory@neaq.org](mailto:kmallory@neaq.org)) or the Sanctuary at 781-545-8026 ([anne.smrcina@noaa.gov](mailto:anne.smrcina@noaa.gov)).

October 23, 2002

**"Penetrating the Depths: Science and Technologies in the Marine Environment"** by James Lindholm, Ph.D., Science Coordinator for Stellwagen Bank National Marine Sanctuary and Adjunct Research Scientist for the National Undersea Research Center at The University of Connecticut

October 30, 2002

**"Sanctuary for What? Stellwagen and the Hope for a Regional Fisheries Revival"** by Les Kaufman, Associate Professor of Biology, Boston University Marine Program

November 6, 2002

**"The Lost Steamer Portland: A Treasure in the Sanctuary"** by John Fish, Director of the Historical Maritime Group of New England, Vice President of American Underwater Search and Survey Ltd.

November 13, 2002

**"Bluefin on the Bank: New Insights on the Behavior and Atlantic-wide Migration of Giant Bluefin Tuna"** by Molly Lutcavage, Ph.D., Senior Scientist, Edgerton Research Lab, New England Aquarium

November 20, 2002

**"The Whales of Stellwagen Seen through Compound Eyes"** by Charles "Stormy" Mayo, Ph.D., Senior Scientist / Founder, Center for Coastal Studies

## Staff Accomplishments

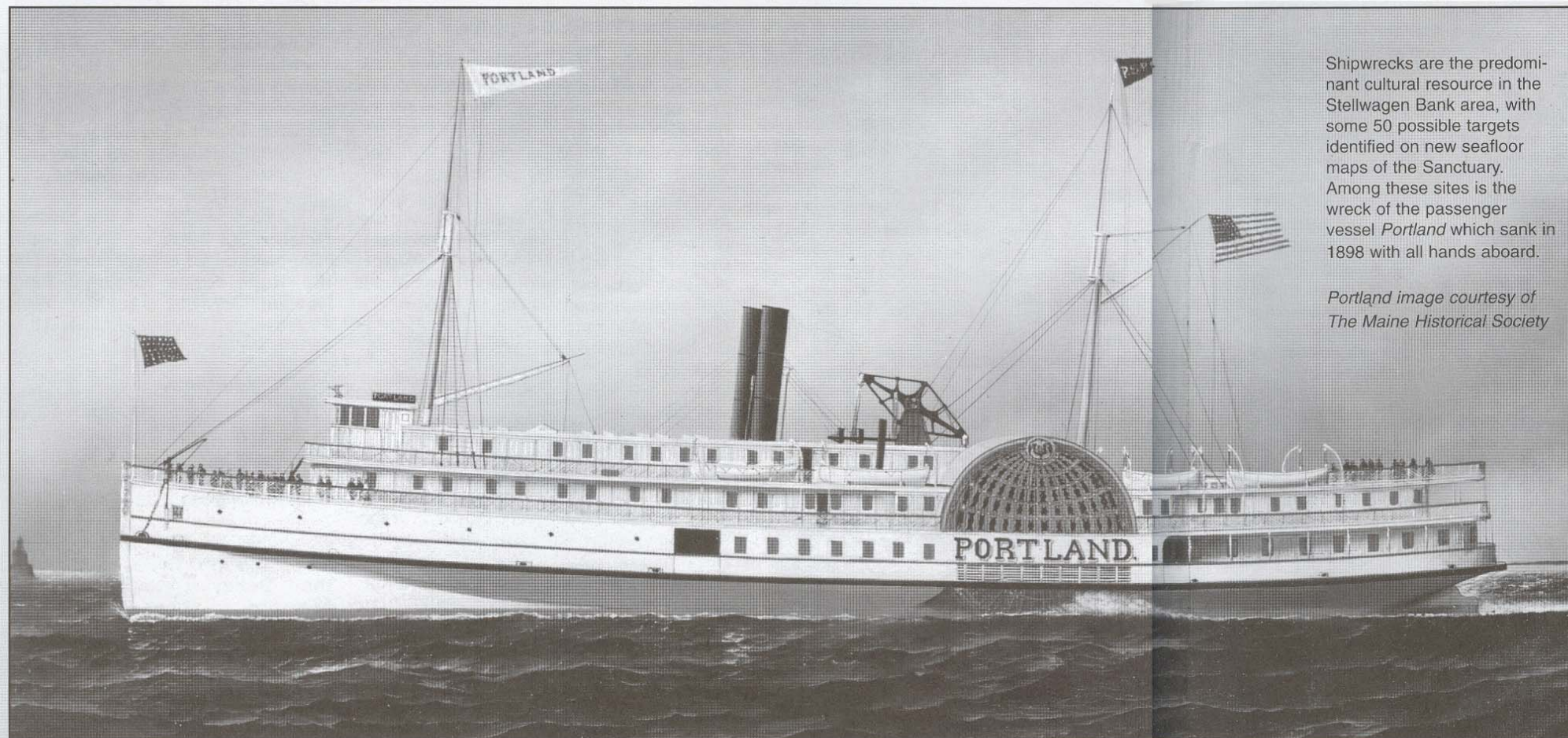
Science Coordinator James Lindholm is a co-author for two articles scheduled for publication. The papers are:

Auster, P.J., J. Lindholm, S. Schaub, G. Funnell, L.S. Kaufman, and P.C. Valentine. In Press. Use of sand wave habitats by silver hake *Merluccius bilinearis* (Mitchill). *Journal of Fish Biology*.

Auster, P. and J. Lindholm. In Press. Patterns in the local diversity of coral reef fishes versus rates of social foraging. *Caribbean Journal of Science*.



## Sanctuary Confirms the Site of "New England's Titanic"



Shipwrecks are the predominant cultural resource in the Stellwagen Bank area, with some 50 possible targets identified on new seafloor maps of the Sanctuary. Among these sites is the wreck of the passenger vessel *Portland* which sank in 1898 with all hands aboard.

*Portland image courtesy of The Maine Historical Society*

### Sanctuary Confirms Site of New England's Titanic

*This article first appeared in the October/November 2002 issue of Sanctuary Watch, a publication of the National Marine Sanctuary Program.*

The loss of the steamship *Portland* with all hands in 1898, long one of New England's greatest sea tragedies and an enduring mystery, is a mystery no more. In July, a team led by the Stellwagen Bank National Marine Sanctuary confirmed the location of the 281-foot side paddlewheel steamship deep in Sanctuary waters.

Its final resting place has perplexed researchers for more than 100 years. After departing Boston for Portland, Maine on November 26, 1898, the *Portland* sailed into a ferocious storm as it passed east of Cape Ann. As the storm intensified, schooner captains and crews riding out the storm in the middle of the Massachusetts Bay reportedly saw the vessel in various stages of distress before the blowing snow and high waves cut off their view. Other

observers claimed they saw the steamer just off Cape Cod. The following day as the storm continued to rage, pieces of the steamer as well as the bodies of some of its passengers and crew began washing up on the outer Cape Cod beaches. The storm was thereafter known as the "Portland Gale" and has remained one of the most destructive storms to hit New England.

The citizens of Portland, Maine were particularly hard hit by the tragedy; many of the 192 or so people on board hailed from that community. In most cases, the families of the passengers and crew were unable to hold a funeral for their loved ones as only a small percentage of the people onboard the vessel were found. Many families remained unsure whether their loved ones had even been on the steamer as its passenger list sank with the ship. After the disaster, many captains made it a policy to send a passenger list ashore in the event their vessel sank.

Since the *Portland's* sinking, many people have sought to solve the mystery of its last

moments. Speculation as to the *Portland's* final resting place ranged from the deepwater off Stellwagen Bank to the sand bars just off Cape Cod. Attempts to find the steamer, beginning shortly after its loss and continuing through the 1950s, turned up no conclusive evidence of the vessel's final resting place. The continued search for the site by New England maritime historian Edward Rowe Snow kept the story in the public's consciousness.

In the 1980s, private maritime researchers John Fish and Arnold Carr of American Underwater Search and Survey began searching for the *Portland*. Their efforts culminated in 1989 with the discovery of a wreck they believed to be the *Portland*; however, the men did not possess conclusive evidence of their find. In the spring of 2002, the researchers gave the coordinates of their suspected site to Stellwagen Bank National Marine Sanctuary personnel. Using advanced deep-sea search technology provided by the National Undersea Research Center at the University of Connecticut, a Sanctuary-led team relocated the site using side scan sonar and then

finally gathering conclusive evidence to support Fish and Carr's discovery with a remotely operated vehicle.

"The Sanctuary is also exploring 50 possible shipwrecks," said Sanctuary Superintendent Dr. Craig MacDonald. "With other finds that are occurring, submerged cultural resources take on even greater importance in the Sanctuary's management and in its role of preserving America's cultural heritage."

"The *Portland* is New England's Titanic," said MacDonald. "Confirming its location was an important event not only to the Sanctuary but to the relatives of those lost on the *Portland*. They can take some comfort that we have found their loved ones' final resting place."

by Matthew Lawrence

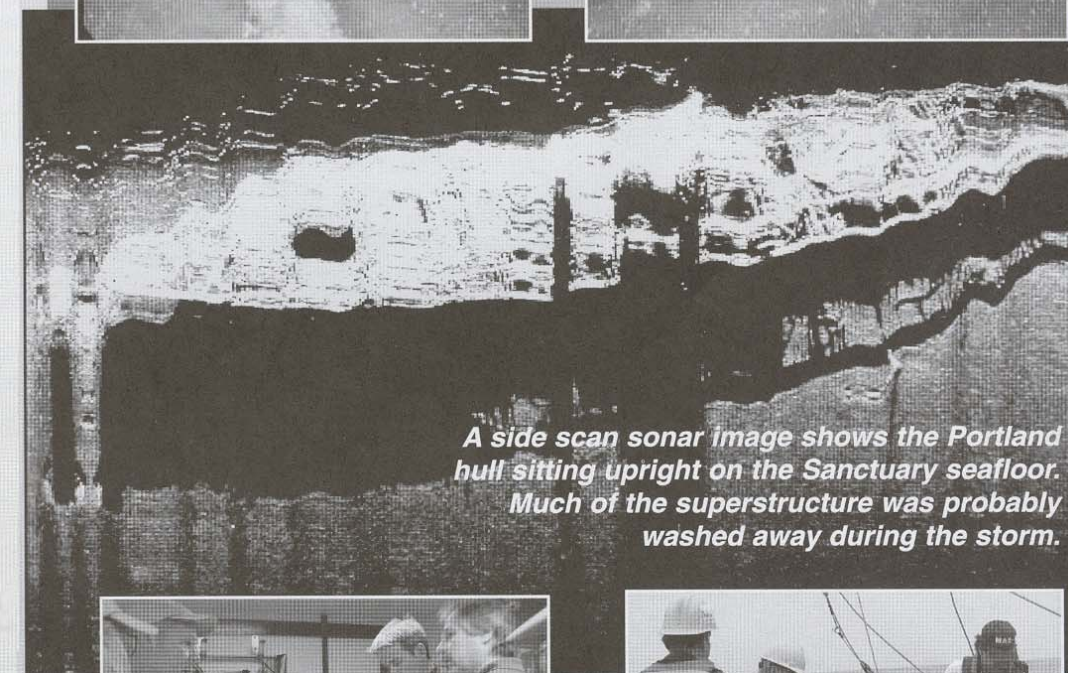
*Matthew is a graduate student of marine archaeology at East Carolina University. He provided invaluable research and field assistance as a summer intern during the Sanctuary's Portland Project.*



*Portland Anchor*



*Portland Bits*



*A side scan sonar image shows the Portland hull sitting upright on the Sanctuary seafloor. Much of the superstructure was probably washed away during the storm.*



*Sanctuary and NURC personnel plan the mission*



*Side scan sonar towfish was deployed to record the wreck*

### Wreck of the Portland Generates National Press Interest

Every Boston-area television station and all of the major newspapers turned out for the August 29th press conference during which the location of the *Portland* wreck was confirmed within the boundaries of the Stellwagen Bank National Marine Sanctuary. Articles appeared in publications across the country, including major features in the Washington Post, Portland Press Herald, the Christian Science Monitor, and the Boston Globe. The story appeared on the Associated Press National Newswire and on CNN, reaching millions of persons across the country. For more information on the *Portland* Project, visit the Sanctuary's web site (<http://stellwagen.nos.noaa.gov>) and the NOAA web site (<http://www.noaa.gov>).

**The Sanctuary has begun a systematic exploration of the 50 sites identified as anomalies by US Geological Survey scientists during their multi-beam sonar survey of the Sanctuary. Announcements of further finds will be forthcoming. Stay tuned for these exciting updates on the Sanctuary's cultural resources.**



# Research Brief

## Update on Fish Tagging Project

"Fish Site Utilization and Movement Relative to Landscape Features in SBNMS as Determined by Acoustic Telemetry" is a multi-year project that was initiated in 1998 to quantify movement rates and site utilization of fishes with different life histories relative to landscape features (such as gravel habitats and piled boulder reefs). Movement rates of Atlantic cod (*Gadus morhua*), a deep-water benthic-pelagic species, and Acadian redfish (*Sebastes fasciatus*), a temperate rock-reef fish as a juvenile, will be recorded using acoustic telemetry. These species were selected due to their very different life histories and because each is now, or has been in the past, heavily exploited commercially in the Gulf of Maine.

Fish of each species will be collected in the Western Gulf of Maine Closed Area within the Sanctuary, tagged with acoustic tags, and subsequently released for tracking



James Lindholm  
Primary investigator for  
the fish tagging project

strategies and different associations with seafloor habitat.

Results from the 2001 field season indicate that site utilization of low-relief gravel habitat by Atlantic cod is much higher than previously expected. Individual tagged cod made multiple visits to a small patch of grav-

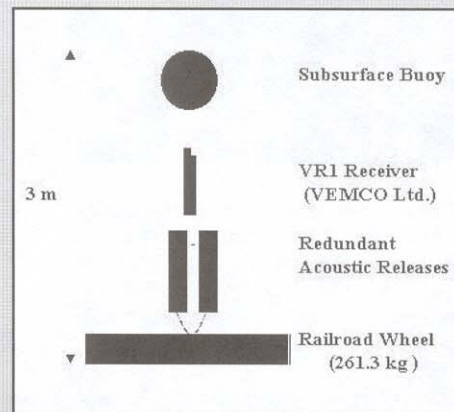
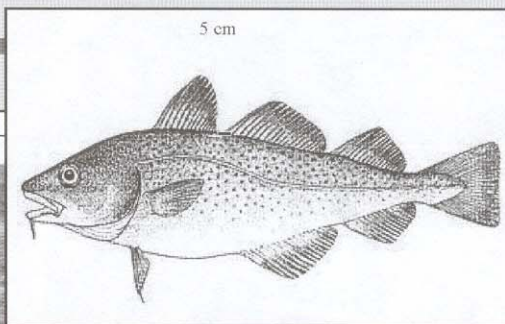
el habitat over the course of 4 months (June-September). Several animals were observed within the range of the acoustic receiver at least once a day for the entire four-month period. These results will be published in the Spring 2003 issue of the Marine Technology Society Journal.

using a four-node acoustic array deployed on the seafloor. Fish in a range of size classes will be tagged and tracked to investigate seasonal variation in fish movement rates and site utilization behavior. These data will be used to structure a dynamic computer model designed to simulate different zoning approaches to the management of species with very different life history

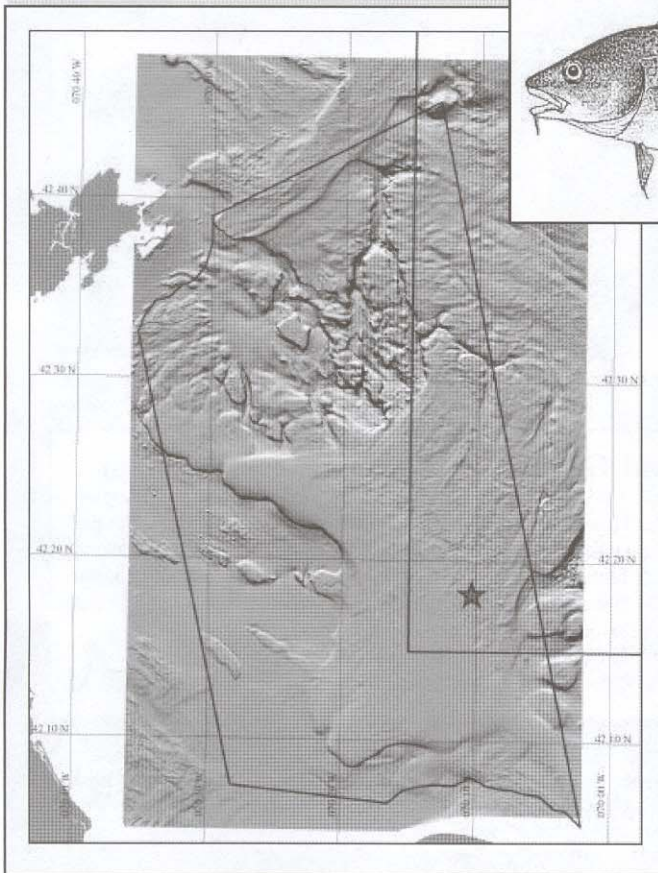
strategies and different associations with seafloor habitat. Preliminary results from the 2002 field season suggest that two distinct groups of cod are using piled boulder reefs in SBNMS, a "resident" group and a "transient" group. There was high site fidelity among the "resident" fish at each of the four boulder reefs in the study, while the "transients" were observed to move from site to site throughout the study.

The next stage of the project will investigate cod movement at the same four piled boulder reefs from late Fall 2003 into early Winter 2004 to investigate the effect of seasonality on behavior.

by James Lindholm,  
SBNMS Science Coordinator



The 2001 research station (star on map at left) was located in the eastern portion of the Sanctuary which overlaps with the Western Gulf of Maine Groundfish Closure Area. Hydrophone arrays (line art), including receiver, subsurface buoy, acoustic releases and weight (railroad wheel), were placed at the site and recorded the movements of tagged cod. Tags were small battery-powered transmitters that were attached to the dorsal surface of each fish.





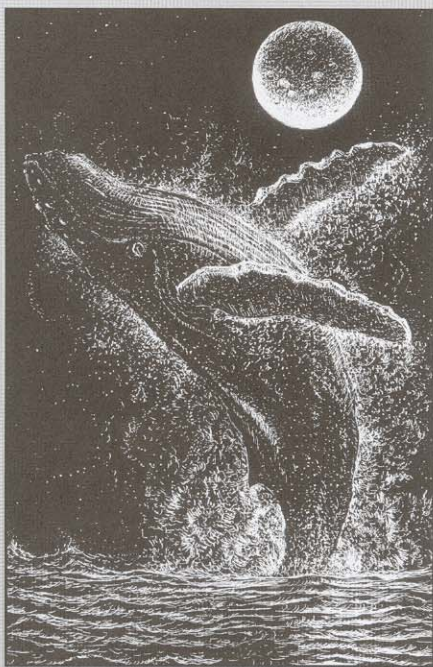
# Education Digest

## Boston Globe Education Supplement Focuses on the Sanctuary

On October 21, over 10,000 schoolchildren across eastern Massachusetts were introduced to the wonders of the region's only National Marine Sanctuary. The quarterly Newspaper in Education Supplement of The Boston Globe focused on the Stellwagen Bank Sanctuary with the fall issue. Students were able to read about the Sanctuary's marine mammal specialist David Wiley and how he got into his line of work, to find out about the history of seafloor mapping in the region, and to learn about the whales, fish and other creatures that call Stellwagen Bank home.

## Poster Contest Theme is SBNMS—Deadline is Jan. 31

The Annual Massachusetts Marine Educators Art/Poster Contest is now underway. Theme of this year's contest is "Celebrating 10 Years of the Stellwagen Bank National Marine Sanctuary." Internationally renowned marine artist Robert Lyn Nelson, a supporter of the Sanctuary Program and Board Member of the National Marine Sanctuary Foundation has agreed to serve as one of the contest judges. The contest is co-sponsored by the Sanctuary and the New England Aquarium. Rules can be found on the Sanctuary's web page or by contacting the Sanctuary directly at 781-545-8026.



Art by Robert Lyn Nelson

## Fish ID Class to Meet Nov. 4, Other Workshops Planned

Do you know how to recognize a cod from a pollock? Can you differentiate between a winter flounder and a windowpane? If you'd like to know your local fish, come join us at one of the Sanctuary-sponsored Fish ID workshops offered throughout the year. The next workshop will be on Nov. 4, at the Plymouth Community Intermediate School (PCIS) on Long Pond Road from 4-6pm. Scuba divers and snorkelers who take the course are then eligible to participate in a fish survey program coordinated nationally through REEF (Reef Environmental Education Foundation), which maintains a master database of fish sightings. Divers can also build their own personal sightings list. If you miss the November workshop, don't worry. Additional programs are planned for the winter and spring, including a session at the annual Sea Rovers Conference in March.

The Sanctuary developed the Gulf of



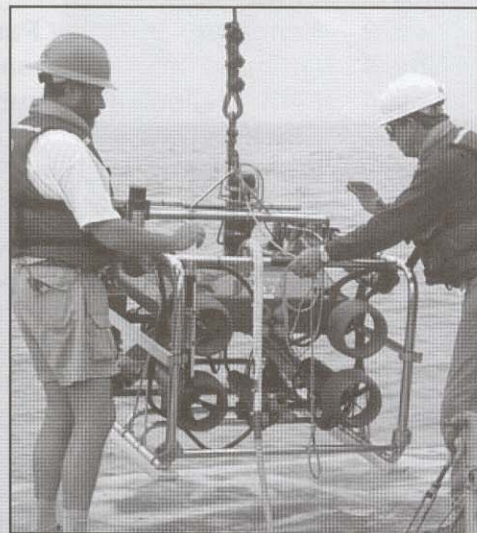
The Fish ID course teaches scuba divers and snorkelers how to recognize local fish.

Maine/SBNMS Fish ID course in conjunction with REEF and offers a series of free workshops to local dive and education groups. For more information, contact the GOM/SBNMS Fish ID Coordinator Bob Michelson at 781-848-8870 (pbm.inc@verizon.net). As of Sept. 27, 255 individuals have been trained in fish identification. Our New England divers have completed 413 surveys (60 different species spotted at 69 sites within the five New England coastal states).

The results are now in. The First Annual Stellwagen Bank NMS/Cape Ann dive event on July 20th was the largest 2002 Great Annual Fish Count program in the nation. Our New England contingent of 79 divers completed 132 surveys in which 32 different species of fish were spotted. Congratulations to our hardy divers and our hard-working Fish ID Coordinator Bob Michelson for their dedicated efforts in making the program such an overwhelming success.

## ROV Competition Uses Sanctuary Scenario

The first annual New England regional underwater Remotely Operated Vehicle (ROV) competition for middle, high school and college level students has been announced by the Marine Advanced Technology in Education Center (MATE) and Walden Media, producers of the new James Cameron film "Ghosts of the Abyss." The program requires teams of students to build an ROV that can complete an underwater mission meeting a set of specific criteria. This is an exciting



ROVs like this one are used to study the Stellwagen Bank National Marine Sanctuary's varied habitats and marine resources.

opportunity for teachers to integrate cutting edge technology into their classrooms.

The mission scenario for the New England competitors involves a sinking 200-foot container ship carrying construction equipment and hazardous waste material from the "Big Dig" that threatens to pollute the Stellwagen Bank National Marine Sanctuary. Students must design an ROV that can retrieve the containers.

The competition will be held on April 22 and 23 at Cambridge Rindge and Latin High School. Funding of \$500 per team is available for all schools that register. For more information about the competition, contact Regional Coordinator Paul McGuinness, Cambridge Rindge and Latin, 459 Broadway, Cambridge, MA 02138; phone 617-869-6876; e-mail pmcguin100@aol.com.

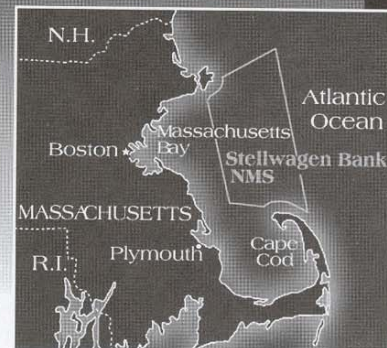


# CALENDAR

October 2002 thru December 2002

## October 2002

- Oct. 3-5 FishExpo, Providence, RI
- Oct. 14 Columbus Day (Federal Holiday)
- Oct. 18 MPR Public Scoping Comment Period Closes
- Oct. 23 Lowell Lecture: James Lindholm, "Penetrating the Depths: Science and Technologies in the Marine Environment," NE Aquarium, 6pm
- Oct. 30 Lowell Lecture: Les Kaufman, "Sanctuary for What? Stellwagen and the Hope for a Regional Fisheries Revival," NE Aquarium, 6pm



## November 2002

- Nov. 2 Sanctuary Birthday Party, NE Aquarium, 10am-4pm
- Nov. 4 Official 10th Anniversary of the Stellwagen Bank National Marine Sanctuary
- Nov. 4 Fish ID Class, Plymouth Community Intermediate School, 4-6pm
- Nov. 5 Election Day
- Nov. 6 Lowell Lecture: John Fish, "The Lost Steamer Portland: A Treasure in the Sanctuary," NE Aquarium, 6pm
- Nov. 11 Veterans Day (Federal Holiday)
- Nov. 13 Lowell Lecture: Molly Lutcavage, "Bluefin on the Bank: New Insights on the Behavior and Atlantic-wide Migration of Giant Bluefin Tuna," NE Aquarium, 6pm
- Nov. 13 "Defining Stellwagen," Coastal Solutions Forum from the Center for Coastal Studies at Mass. Maritime Academy, 5pm reception, 7pm forum
- Nov. 19 Sanctuary Advisory Council Meeting (TBA)
- Nov. 20 Lowell Lecture: Charles "Stormy" Mayo, "The Whales of Stellwagen Seen through Compound Eyes," NE Aquarium, 6pm
- Nov. 28 Thanksgiving Day (Federal Holiday)

## December 2002

- Dec. 14 Christmas Bird Count with Mass. Audubon Society
- Dec. 25 Christmas Day (Federal Holiday)

National Oceanic and Atmospheric Administration  
National Ocean Service  
Gerry E. Studds Stellwagen Bank National Marine Sanctuary  
175 Edward Foster Road  
Scituate, MA 02066



<http://stellwagen.nos.noaa.gov>